

CID-01616012  
NAV. Ships - 347-0281

INSTRUCTIONS 425

FUEL OIL SERVICE PUMPS,  
FUEL OIL BOOSTER PUMPS, &  
LUBRICATING OIL SERVICE PUMPS

UNITED STATES DESTROYERS  
DD445 CLASS

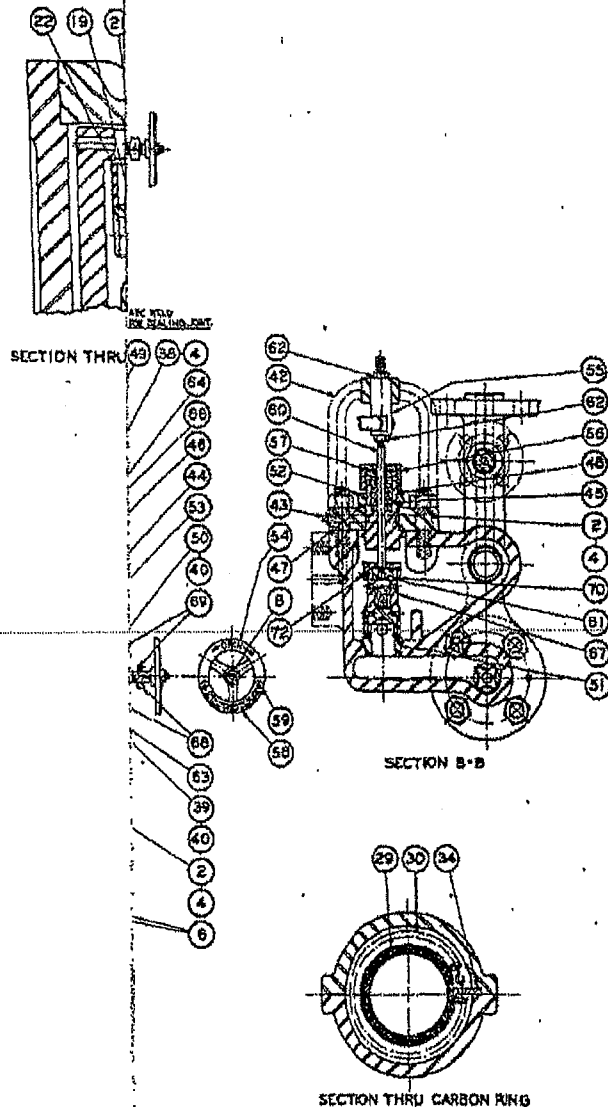
BUILT IN 1941-'43

NAVY-NRE-4HD, PHIA. PA. REPA.

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DE LAVAL STEAM TURBINE COMPANY

TRENTON, NEW JERSEY



1 Casing	9 Screw Valve Seat	58 Instruction Plate	65 Steam Strainer
2 Stud	10 Eyebolt	59 Screw	66 Guide
3 Stud	11 Bolt Gland	60 Valve Spindle	67 Governing Valve
4 Nut	12 Nut #1	61 Collar	68 Stop
5 Nut	13 Flange	62 Nut	69 Set-screw
6 Bolt	14 Dowel Pin	63 Valve Yoke	70 Lock-nut
7 Dowel Pin	15 Stud Ring	64 Nozzle	72 Set-screw
8 Nut	16, 17 P		

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## OPERATION AND CARE

## Preparation for Starting

Read the entire instruction manual carefully. It is impracticable to incorporate in this particular section of the manual all of the information necessary to the intelligent handling of the unit, and it will be found that points which are necessarily covered very generally herein are discussed more specifically and in greater detail elsewhere in the manual.

Before starting a unit for the first time, thoroughly clean the external surfaces, paying special attention to the governing valve gear. It is not necessary to disassemble a new unit for cleaning if the factory assembly has not been disturbed. All internal surfaces were slushed after the factory test with a special rust preventive compound which is an excellent lubricant and the removal of which is effected completely and without harmful results of any kind in the normal operation of the unit.

Fill the unit oil system according to the directions given on page 38. Never start the unit until it has been definitely ascertained that the unit system contains sufficient oil.

Prime the main pump with light oil. The vent opening in the top of the casing can be utilized for this purpose.

## Starting

Test the governing valve gear for freedom of movement by manual operation. The unit should never be started until it has been determined that the valve gear is in perfect working order.

If the unit is equipped with a pressure governor, make sure that the governor actuating oil connection is open and that the governor is set for automatic control.

See that the pump packing gland stud nuts are only finger tight.

Make sure that the pump suction and discharge valves are open.

Open the turbine exhaust valve and the valve in the turbine casing drain line.

Admit just enough steam through the throttle valve to expel all condensate and to warm the turbine.

Close the turbine drain valve and admit sufficient steam through the throttle valve to turn the unit over at the minimum speed required to develop and maintain oil circulation in the unit lubrication system. Continue to operate at that speed until the turbine is thoroughly warmed and it is definitely established that everything is working satisfactorily so far.

Bring the unit gradually up to speed, adjusting the pressure governor as required in the case of a unit so equipped.

Adjust the pump packing gland according to the directions given on page 22.

Give the unit a thorough trial under load conditions before leaving it paying special attention to lubrication and governor action.

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